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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/637,400	08/11/2000	Venkataraman Ramanathan	M1103.70076US00	7300

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EXAMINER	
EL CHANTI, HUSSEIN A	
ART UNIT	**PAPER NUMBER**
2157	

DATE MAILED: 03/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/637,400	RAMANATHAN ET AL.	
	Examiner	Art Unit	
	Hussein A. El-chanti	2157	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

1. This action is responsive to amendment received on Feb. 6, 2006. Claims 1-23 are pending examination.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 5, 6, 15, 16 and 22-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

When a claim or part of a claim is defined in computer program code, whether in source or object code format, a person of skill in the art must be able to ascertain the metes and bounds of the claimed invention. In certain circumstances, as where self-documenting programming code is employed, use of programming language in a claim would be permissible because such program source code presents "sufficiently high-level language and descriptive identifiers" to make it universally understood to others in the art without the programmer having to insert any comments. See Computer Dictionary 353 (Microsoft Press, 2ed. 1994) for a definition of "self-documenting code." Applicants should be encouraged to functionally define the steps the computer will perform rather than simply reciting source or object code instructions (see MPEP 2106 [R-2] Section V, Part A-2).

The applicant inserts comments embedded in the code to explain the functionality of the source code, However, the code listed in the above recited claims do

not present "sufficiently high-level language" to make it universally understood to one of the ordinary skill in the art without the use of the comments.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-4, 7-14 and 17-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Coile, U.S. Patent No. 6,598,081.

As to claim 1, Coile teaches a method of increasing throughput of a server capable of servicing at least one TCP/IP connection with a client, the server creating a TCP/IP Transmission Control Block (TCB) stored in non-paged pool (NPP) memory containing information required to identify and to service the client connection, comprising the steps of:

closing a TCP/IP connection (see col. 11 lines 58-col. 12 lines 8, TCP/IP connection is closed);

excluding information from the TCB not required to identify the client connection to form a timed-wait state TCB (TWTCB) for a time-wait period (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10, connection objects are created that have smaller size than the TCB); and

releasing the NPP memory containing the information required to service the client connection (see col. 11 lines 58-col. 12 lines 8).

As to claim 2, Coile teaches the method of claim 1, wherein the step of excluding comprises the step of copying the information required to identify the client connection to form the TWTCB (see col. 11 lines 58-col. 12 lines 8).

As to claim 3, Coile teaches the method of claim 2, wherein the step of releasing the NPP memory containing the information required to service the client connection includes the step of releasing the NPP memory of the TCB required to identify the client connection (see col. 11 lines 58-col. 12 lines 8).

As to claim 4, Coile teaches the method of claim 1, wherein the step of excluding information not required to identify the client connection to form the TWTCB comprises the step of maintaining a minimum of information necessary to avoid late-routed packets forming new connections on the server. (see col. 11 lines 58-col. 12 lines 8)

As to claim 7, Coile teaches the method of claim 1, wherein the step of excluding information not required to identify the client connection comprises the step of forming a TWTCB that occupies less memory than the TCB (see col. 11 lines 58-col. 12 lines 8).

As to claims 8, Coile teaches the method of claim 7, wherein the step of forming a TWTCB that occupies less memory than the TCB comprises the step of. forming a TWTCB that occupies approximately 96 bytes of memory (see col. 8 lines 58-col. 9 lines 10).

As to claim 9, Coile teaches the method of claim 7, wherein the step of forming a TWTCB that occupies less memory than the TCB comprises the step of forming a

TWTCB that occupies approximately 64 bytes of memory (see col. 8 lines 58-col. 9 lines 10).

As to claim 10, Coile teaches the method of claim 7, wherein the step of forming a TWTCB that occupies less memory than the TCB comprises the step of forming a TWTCB that occupies approximately a single cache line (see col. 8 lines 58-col. 9 lines 10).

As to claim 11, Coile teaches a method for increasing the throughput of a server capable of servicing at least one TCP/IP connection, the server establishing a TCP/IP Transmission Control Block (TCB) of a size and containing information sufficient to identify and service the connection, comprising the steps of:

closing the at least one TCP/IP connection;

forming a Timed-Wait TCB (TWTCB) of a size less than the TCB; and

releasing the TCB for use by the server.

As to claim 12, Coile teaches the method of claim 11, wherein the step of forming a TWTCB comprises the step of copying a portion of the information of the TCB, the portion of information being sufficient to identify the TCP/IP connection to prevent late routed packets from forming new connections (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 13, Coile teaches the method of claim 12, wherein the TCB occupies approximately 440 bytes of memory, and wherein the step of forming a TWTCB comprises the step of forming a TWTCB that occupies approximately 206 bytes of memory (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 14, Coile teaches the method of claim 12, wherein the TCB occupies approximately 440 bytes of memory, and wherein the step of forming a TWTCB comprises the step of forming a TWTCB that occupies approximately 32 bytes of memory (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 17, Coile teaches the method of claim 11, wherein the step of forming a TWTCB comprises the step of copying a portion of the information of the TCB, the portion of information being insufficient to service the TCP/IP connection (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 18, Coile teaches a computer readable medium having computer-executable instructions for performing steps, comprising: closing a TCP/IP connection; copying less than all information stored in a TCP/IP Transmission Control Block (TCB) into a Timed-Wait TCB (TWTCB); and maintaining the TWTCB for a timed wait period to avoid late routed packets from establishing a new connection with a server (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 19, Coile teaches the computer-readable medium of claim 18, wherein the step of copying less than all the information stored in a TCB into a TWTCB comprises the step of copying information sufficient to uniquely identify the TCP/IP connection (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 20, Coile teaches the computer-readable medium of claim 18, further comprising the step of releasing memory used to store the TCB for use by the server after the step of copying less than all of the information stored in the TCB into a TWTCB (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

As to claim 21, Coile teaches the computer-readable medium of claim 18, wherein the step of copying less than all the information stored in a TCB into a TWTCB results in a structure for the TWTCB that fits on one cache line (see col. 11 lines 58-col. 12 lines 8 and col. 8 lines 58-col. 9 lines 10).

Response to Arguments

4. Applicant's arguments have been fully considered but are not persuasive. Applicant argues in substance that A) Coile does not disclose closing a TCP/IP connection; B) Coile does not disclose excluding information from TCB not required to identify a client connection; C) Applicant does not understand the 35 USC 112 second paragraph for claims 5, 6, 15, 16 and 22-23 since one of the ordinary skill in the art would understand the computer code of claims 5, 6, 15, 16 and 22-23.

In response to A) Coile teaches a system and method for initiating and terminating sessions on a network and storing session information on a proxy server (see abstract). Coile also teaches the session information between a server and a client are maintained on a proxy server where when the session is terminated, the server stores the session information object on the proxy server (see fig. 5). Therefore Coile's teaching of terminating a session between a server and a client meets the scope of the claimed limitation "closing a connection".

In response to B) Coile teaches the proxy server stores a delta function that identifies the client connection that may be used later if the client restarts the connection (see fig. 6 and 8). Therefore Coile's storing connection function that is required to re-establish a connection between a client and a server on a proxy server meets the scope

of the claimed limitation "excluding information that is required to identify the client connection. In addition, the claim language does not specify what portion of the data is being exncluded. For example, if all the information in the TCB is required to re-establish a connection, then no information is being excluded. Therefore assuming the applicant's assumption that Coile does not exclude any TCB information by storing all the TCB information on the server, Coile would still meet the scope of the claimed language by storing all the TCB information on the proxy server.

In response to C) Section 2106 [R-2] Section V, Part A-2 of the MPEP states that a code in the claim language is permissible if the code is presents "sufficiently high-level language and descriptive identifiers" to make it universally understood to others in the art without the programmer having to insert any comments. The code recites comments to explain the functionality of the code and therefore for at least this reason, the source code recited in the claim is not sufficiently high-level language.

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A. El-chanti whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hussein El-chanti

Feb. 21, 2006

ARIO ETIENNE
PRIMARY EXAMINER